

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) In a self-organizing network including a plurality of kindred nodes and at least one hub node with a hub transmission frequency different than kindred transmission frequencies employed between kindred nodes, a method of communicating a data packet from a source node to a destination node remote from the source node comprising the steps of:

transmitting a test packet from the source node to at least some of the plurality of kindred nodes including the destination node;

determining a number of hops required to send the test packet from the source node to the destination node;

changing the transmission power of the source node to adjust the number of hops required to send the test packet from the source node to the destination node to an optimum number, including transmitting directly to 2% to 5% of the kindred nodes in the self-organizing network; and

transmitting the data packet from the source node to the destination node via the optimum number of hops including changing the transmission frequency from a kindred transmission frequency to a hub transmission frequency.

2. (original) A method as claimed in claim 1 wherein the step of changing the transmission power includes increasing the transmission power in steps to adjust the number of hops to the optimum number.

3. (cancelled)

4. (previously cancelled)

5. (previously amended) A method as claimed in claim 1 including in addition a step of determining a traffic load prior to the step of transmitting the data packet from the source node to the destination node and performing the step of changing the transmission frequency from the kindred transmission frequency to the hub transmission frequency when the traffic load is high.

6. (original) A method as claimed in claim 1 including in addition a step of assigning a priority to each data packet and performing the step of transmitting the data packet from the source node to the destination node on higher priority data packets first.

7. (original) A method as claimed in claim 6 including in addition steps of assigning a priority to each data packet and incorporating a user policy of transmitting only packets with a priority above a selected priority.

8. (previously amended) In a self-organizing network including a plurality of kindred nodes, a method of communicating a data packet from a source node to a destination node remote from the source node comprising the steps of:

transmitting a test packet from the source node to at least some of the plurality of kindred nodes at a known transmission power;

adjusting the transmission power until the destination node acknowledges receipt of the test packet;

determining a number of kindred nodes which received the transmission;

adjusting the transmission power of the source node until the number of kindred nodes plus two additional kindred nodes receive the transmission; and

transmitting the data packet from the source node to the destination node via at least one of the plurality of kindred nodes.

9. (original) A method as claimed in claim 8 wherein an optimum number of nodes is 2% to 5% of the kindred nodes in the self-organizing network.

10. (original) A method as claimed in claim 8 wherein the step of transmitting the data packet from the source node to the destination node via at least one of the plurality of kindred nodes includes in addition steps of:

transmitting directly from a first kindred node to a second kindred node a digital message simultaneously at multiple rates to produce a fractal;

receiving the fractal at the second kindred node and accepting a fastest part of the fractal that achieves a desired received signal quality;

transmitting from the second kindred node a "received" message back to the first kindred node; and

transmitting the data packet from the first kindred node to the second kindred node at a rate equal to the fastest part of the fractal that achieves the desired received signal quality.

11. (previously cancelled)

12. (previously cancelled)

13. (cancelled)

14. (cancelled)

15. (previously amended) In a self-organizing network including a plurality of kindred nodes, a method of communicating data packets from source nodes to destination nodes remote from the source nodes comprising the steps of:

including in each data packet information and packet handling commands;

receiving from kindred nodes in the self-organizing network at source nodes data packets with the information and packet handling commands;

adjusting operation of the source nodes in a way that allows the self-organizing network to be self-organizing, self-configuring, and self-healing, said self-healing comprising the steps of:

transmitting directly from a first kindred node to a second kindred node a digital message simultaneously at multiple rates to produce a fractal;

receiving the fractal at the second kindred node and accepting a fastest part of the fractal that achieves a desired received signal quality;

transmitting from the second kindred node a "received" message back to the first kindred node; and

transmitting the data packet from the first kindred node to the second kindred node at a rate equal to the fastest part of the fractal that achieves the desired received signal quality; and

retransmitting data packets from the source nodes to the destination nodes with a minimum of hops and delay.

16. (previously cancelled)

17. (cancelled)

18. (cancelled)

19. (cancelled)

20. (cancelled)

21. (cancelled)

22. (previously cancelled)